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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SAVANI, AVINASH A

ART UNIT

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3749

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,161	Applicant(s) BURK ET AL.	
	Examiner AVINASH SAVANI	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. The following action is in response to the applicant's Request for Continued Examination dated 1/12/2011, that was in response to the Office action dated 10/12/2010. Claims 1-12 are pending, claims 1 and 3 have been amended, while claims 7-12 are presented as new.

Response to Arguments

1. Applicant's arguments filed 1/12/2011 have been fully considered but they are not persuasive. The reasons for the applicant's remarks not being persuasive are given below.

2. The applicant respectfully submits that the combination of Dage with Uhl does not satisfy the claim limitations, specifically when regarding switching off the first heater after the second heater has started. The reason given for this is because according to the applicant hybrid vehicles include more robust electrical system that would not be loaded to a considerable degree, and an undisclosed method of thermal management would likely be more appropriate. It is believed that this is a matter of opinion of the applicant, and although acknowledged by the examiner, does not provide convincing evidence as to why Dage cannot be modified by the teachings of Uhl. In fact, evidence is given by Dage as to why the combination would be reasonable. Referring to figure 3H, a flow diagram describes the heating system. The heating system allows for the option of using the PTC heater or the supplemental heater [col 9, line 25-59]. Since certain conditions are required for using specific heaters, i.e. if the heater flag is set

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"on", then the PTC heater will be used, the method could be carried out to turn down or switch off the PTC heater when there is need for another heater, i.e. certain other conditions would be met, i.e. an exhaust gas temperature is greater than a predetermined temperature, than the fuel fired heater will be used, therein implying that there would be a need to shut down or turn off a first heater. Therefore, the combination of Dage and Uhl would yield the method as claimed. For these reasons, the applicant's remarks are not persuasive and the previous ground of rejection will be maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-3, 6-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dage et al [6464027], further in view of Uhl [20050061798].

3. With respect to claim 1, Dage discloses: In a motor vehicle which has an internal combustion engine (14) and a vehicle interior [see FIG 2], and a cooling circuit (34) for

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cooling the internal combustion engine (14) [col 2, line 49-50, col 5, line 46-49] and a heating circuit [see FIG 1] which has at least one heating body (48), for heating the vehicle interior, and an electrical first additional heater (66), [see FIG 1, col 4, line 27-31], and a heat source connected to the cooling and/or heating circuit (34) as a second additional heater (54) [col 3, line 56-col 4, line 9] a method comprising: operating the electrical first additional heater to heat the vehicle interior [col 3, line 36-42]; operating the second additional heater to heat the cooling and/or heating circuit [col 4, line 10-27]; however does not disclose the switching off or turning down of the electrical heater. Uhl teaches a similar heating device and method such that after the second additional heater is operating, switching off or turning down the electrical first additional heater [0077]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Dage to incorporate the technique of Uhl, because it was known that switching off or turning down the first heater when a second heater is operable will provide for a more efficient heating of a vehicle interior, yielding the predictable result of preventing over heating of vehicle components.

4. With respect to claim 2, Dage discloses: The method as claimed in claim 1, wherein the heat source is in the form of an exhaust-gas heat exchanger (54) [see FIG 1].

5. With respect to claim 3, Dage discloses: The method as claimed in claim 2, wherein the exhaust-gas heat exchanger (54) is arranged between the internal combustion engine (14) and the heating body (48) in the heating circuit [see FIG 1].

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6. With respect to claim 6, Dage discloses: The method as claimed in claim 1, wherein the heat source is in the form of a fuel heater (64) [col 4, line 10-16].

7. With respect to claim 7, Dage discloses: In a motor vehicle comprising: an internal combustion engine (14); a vehicle interior [see FIG 2]; a cooling circuit (34) for cooling the internal combustion engine [col 2, line 49-50, col 5, line 46-49]; at least one heating body (48) for heating air flowing into the vehicle interior; an electrical additional heater (66) for heating the air flowing into the vehicle interior [see FIG 1, col 4, line 27-31]; a heating circuit (34) containing a fluid to which a first heat is applied at the internal combustion engine, the heating circuit being in fluid communication with the at least one heating body, wherein the at least one heating body provides sufficient heat to heat the vehicle interior when the at least one heating body has a first temperature [col 3, line 21-42]; and a non-electrical additional heater (54, 64) for selectively adding a second heat to the heating circuit in addition to the first heat [col 3, line 56-col 4, line 9], a method of heating the vehicle interior upon starting the internal combustion engine when the at least one heating body has a temperature less than said first temperature comprising: starting the internal combustion engine [see FIG 3H, col 6, line 1-10]; operating the electrical additional heater to heat the air flowing into the vehicle interior [col 3, line 36-42]; while the internal combustion engine and electrical additional heater are operating, operating the non-electrical additional heater to add the second heat to the heating circuit [col 4, line 10-27]; however does not explicitly disclose the switching off of the electrical heater. Uhl teaches a similar method wherein when the heating body reaches the first temperature, switching off or turning down the electrical additional

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heater [0077]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Dage to incorporate the technique of Uhl, because it was known that switching off or turning down the first heater when a second heater is operable will provide for a more efficient heating of a vehicle interior, yielding the predictable result of preventing over heating of vehicle components.

8. With respect to claim 8, Dage discloses the method as claimed in claim 7, wherein the non-electric additional heater comprises an exhaust-gas heat exchanger (54) [see FIG 1].

9. With respect to claim 9, Dage discloses the method as claimed in claim 8, wherein the exhaust-gas heat exchanger is arranged in the heating circuit between the internal combustion engine and the heating body [see FIG 1].

10. With respect to claim 12, Dage discloses the method as claimed in claim 8, wherein the non-electric additional heater comprises a fuel combustion heater (64) [col 4, line 10-16].

11. Claims 4, 5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dage ['027], in view of Uhl ['798], further in view of Itakura [4993377].

12. With respect to claim 4, Dage discloses the method as claimed in claim 1, however does not disclose the visco heater.

13. With respect to claim 5, Dage discloses the method as claimed in claim 4, however does not disclose the visco heater as further claimed.

14. With regard to claims 4 and 5, Dage discloses the heating apparatus, however Itakura teaches a similar method wherein the heat source is in the form of a visco

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heater (22) [col 4, line 15-26] and wherein the visco heater is arranged upstream of the heating body (18) in the heating circuit [see FIG 1]. In view of Itakura, a visco heater is used to convert mechanical energy to heat by means of liquid friction. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a visco heater as a heat source because the technique was known in the art, yielding the predictable result of utilizing waste heat to heat a compartment of a vehicle.

15. With respect to claim 10, Dage discloses the method as claimed in claim 8, however does not disclose the visco heater.

16. With respect to claim 11, Dage discloses the method as claimed in claim 10, however does not disclose the visco heater as further claimed.

17. With regard to claims 10 and 11, Dage in view of Uhl teach a method of heating a vehicle interior, however Itakura teaches a similar method wherein the non-electric additional heater comprises a visco heater (22) [col 4, line 15-26] and wherein the visco heater is arranged in the heating circuit upstream of the heating body (18) [see FIG 1]. In view of Itakura, a visco heater is used to convert mechanical energy to heat by means of liquid friction. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a visco heater as a heat source because the technique was known in the art, yielding the predictable result of utilizing waste heat to heat a compartment of a vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AVINASH SAVANI whose telephone number is

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(571)270-3762. The examiner can normally be reached on Monday- Thursday, 7am-5pm: EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Avinash Savani/
Examiner, Art Unit 3749

/A. S./
6/16/2011

/STEVEN B. MCALLISTER/
Supervisory Patent Examiner, Art Unit 3749